

MANUAL - WIRELESS ACCESS POINT G-INW-PRO-48 SETUP



G-INW-PRO-48



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A - Basic Set Up

Connecting the AP

1. The Gigawave G-INW-PRO-48 AP can be powered via a 48v PoE switch or a 48v PoE injector
2. If powering by PoE, plug the lan cable from the PoE switch or a lan cable from the PoE port on the 48v Poe Injector into the WAN/PoE port on the AP.



3. Connect the PoE switch powering the AP to the main router. Alternatively, if using a 48V injector, connect the lan port of the injector to the main router. (LAN in the above image is a pass through lan out from the access point)
4. The Gigawave APs will connect to the internet out of the box when connected to a router. Users can connect to SSID: Giga and use Password: **Gigawave**

Accessing the APs Admin Page

Once powered up there is a couple of ways to access the AP's admin page. The AP's by default are on DHCP. If connected to a router, they will pull an IP address from the routers DHCP server. However the APS have default fall-back IP address of 192.168.1.150. This means if the APs are disconnected from the router the AP IP address will revert back to 192.168.1.150. Once connected to the router again by default they will pull a DHCP IP address from the router.

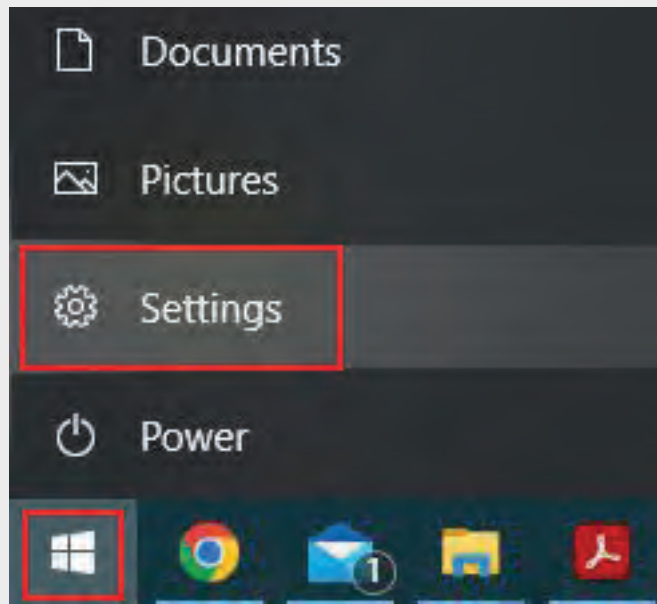
In order to access the admin page use either of the following 2 ways:

1. When AP is not connected to the Router

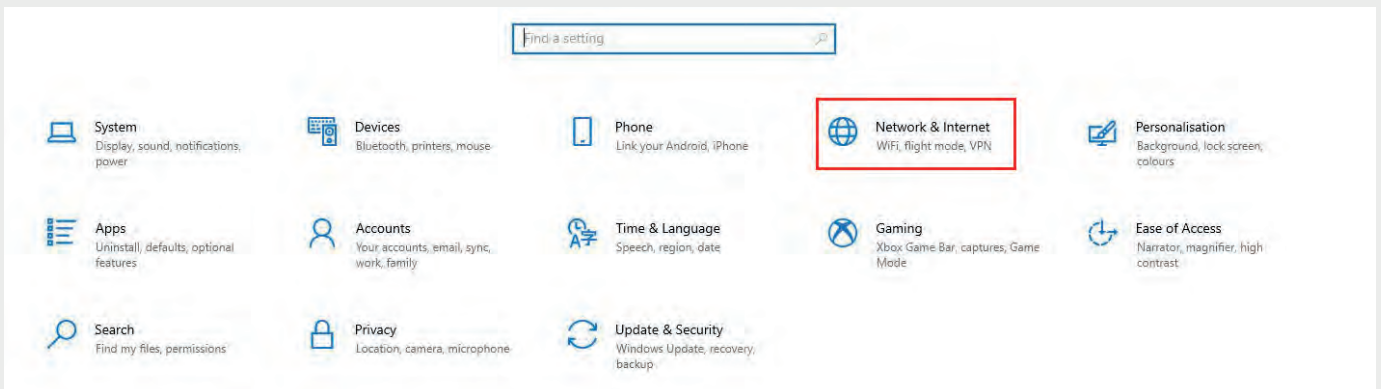
- a. Power up the AP, plug the laptop into either the PoE switch, PoE injector lan port, or the lan pass-through port on the AP itself.
- b. As mentioned above since the AP is not connected to the router, its IP address will be 192.168.1.150. To connect to this IP address with a browser the laptops lan adapter needs to be put in the 192.168.1.X range.

c. Open the Windows Network adapters menu with the following steps:

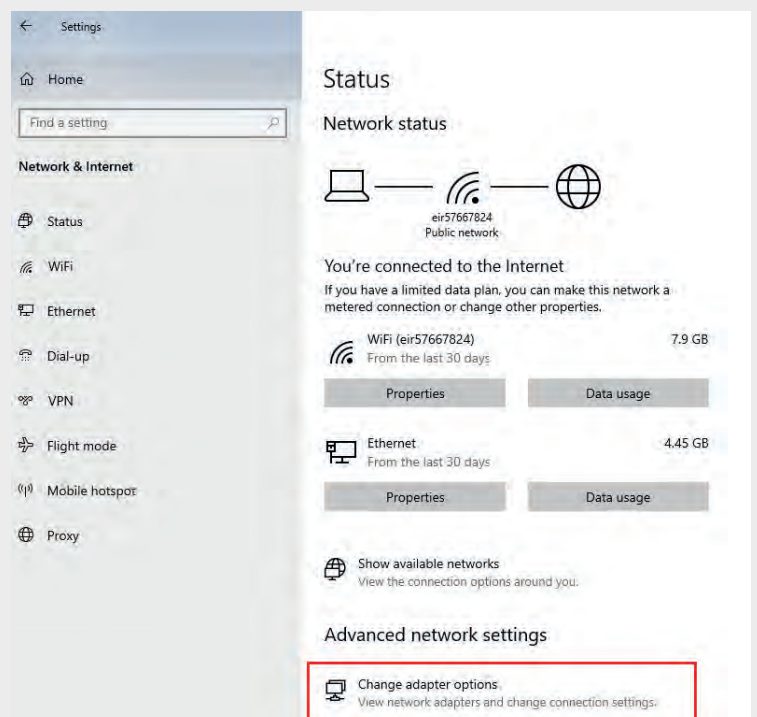
- Click the windows icon in the bottom left hand corner.
- Click on the cog wheel settings icon on the left



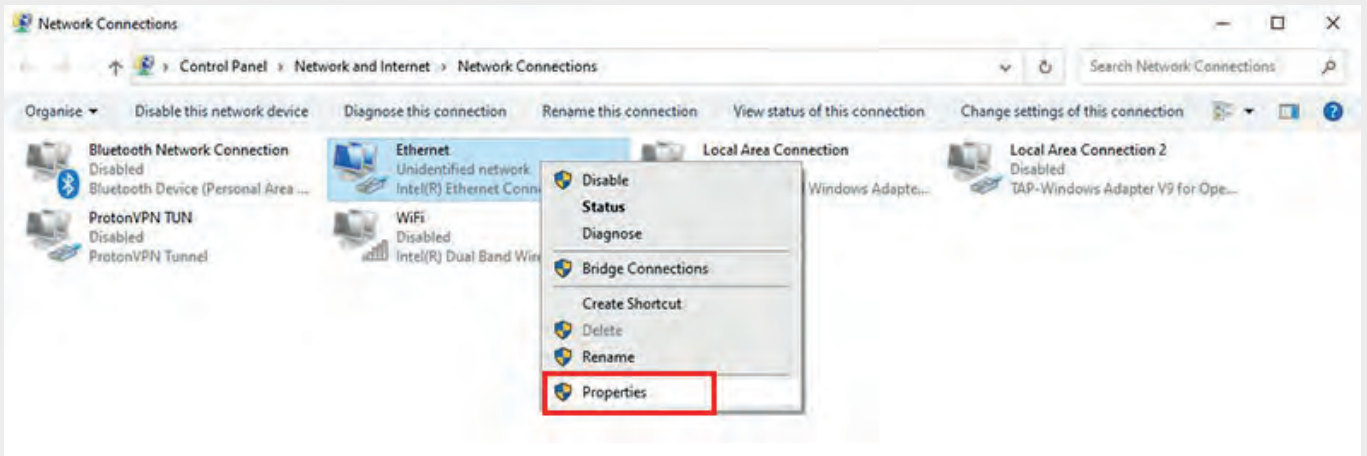
d. In the Windows Settings Screen click on Network & Internet



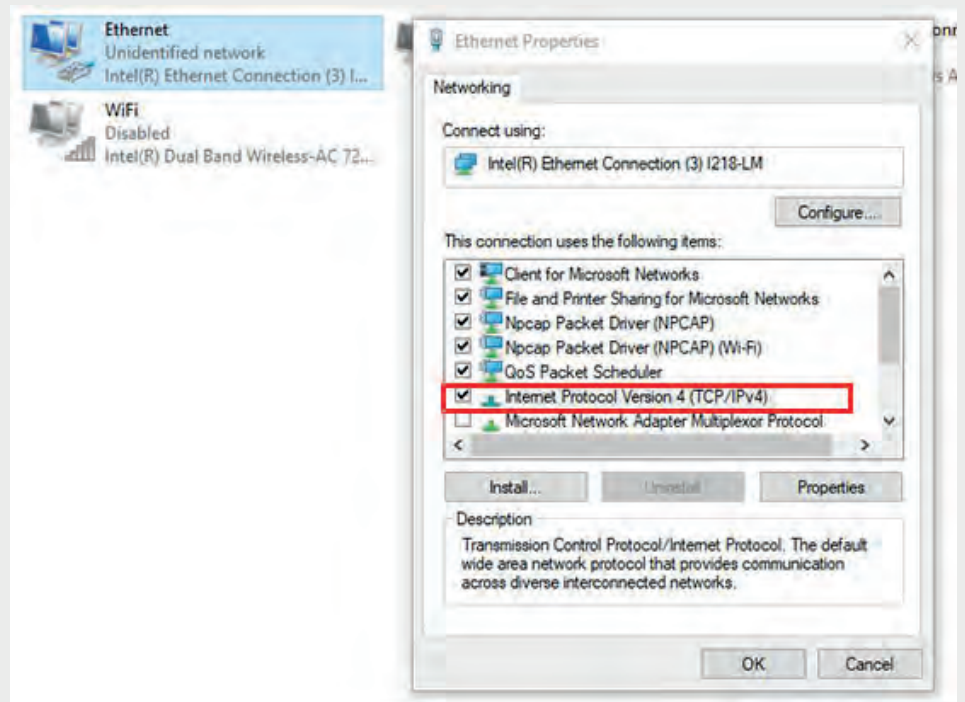
e. In the Status section click on Change adapter options



f. In the Network connection menu right click on Ethernet and left click on Properties.

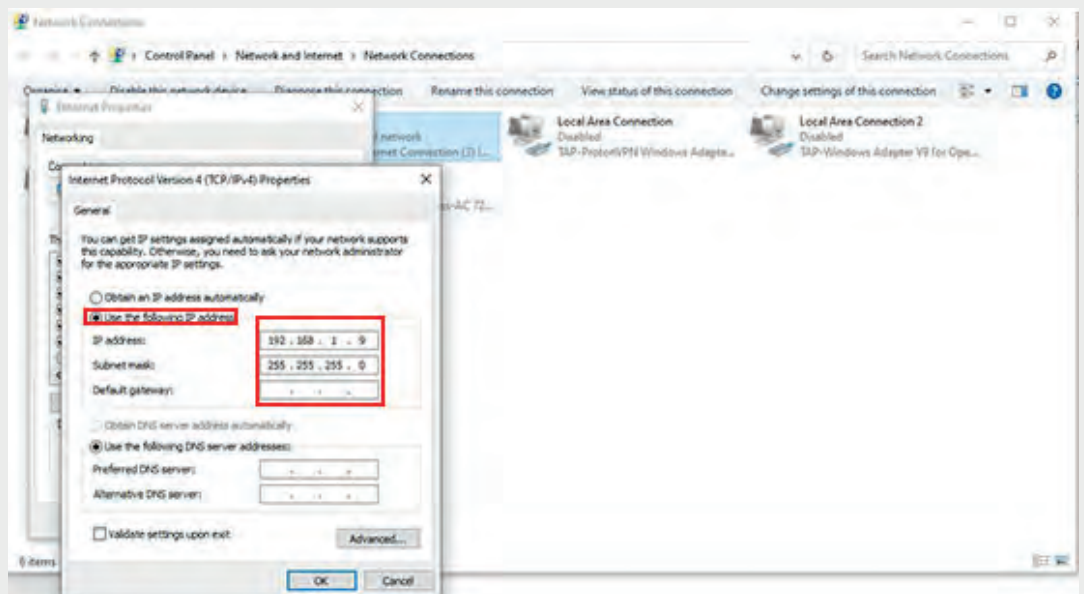


g. In the Ethernet Properties window scroll down and double left click on Internet Protocol Version 4 (TCP/IPv4)

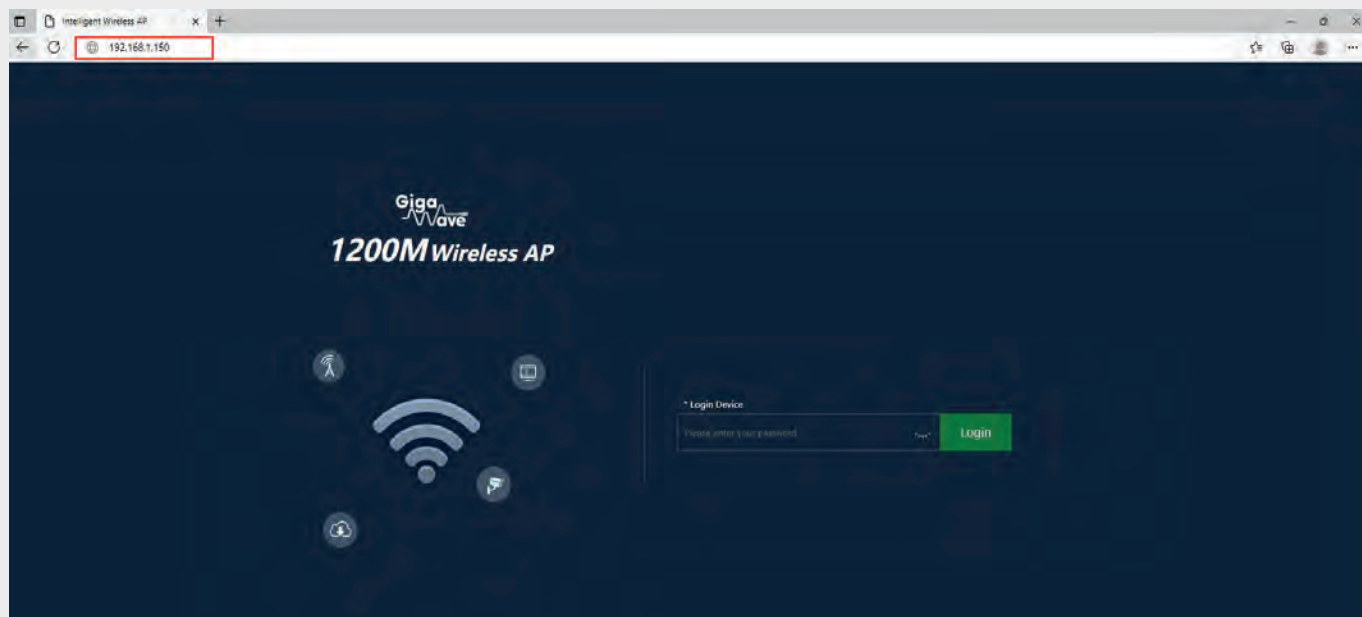


h. Click on Use the following IP address. Type in and IP address in the IP address section in the 192.168.1.x range. For this example 192.168.1.9 was used. This could be any ip address ranging from 192.168.1.1 to 192.168.1.254.

i. Enter the subnet mask: 255.255.255.0 and click OK.



j. Open an Internet browser such as Chrome, Edge etc. Type into the address bar 192.168.1.150. This will open the APS admin page:

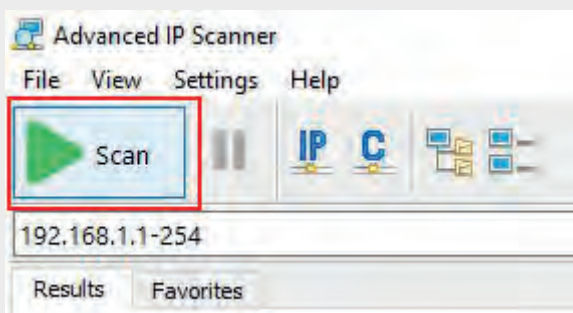


2. When AP is not connected to the Router

a. Power up the AP, plug a lan cable from the the router into either the PoE switch, PoE injector lan port, or the lan pass-through port on the AP itself.

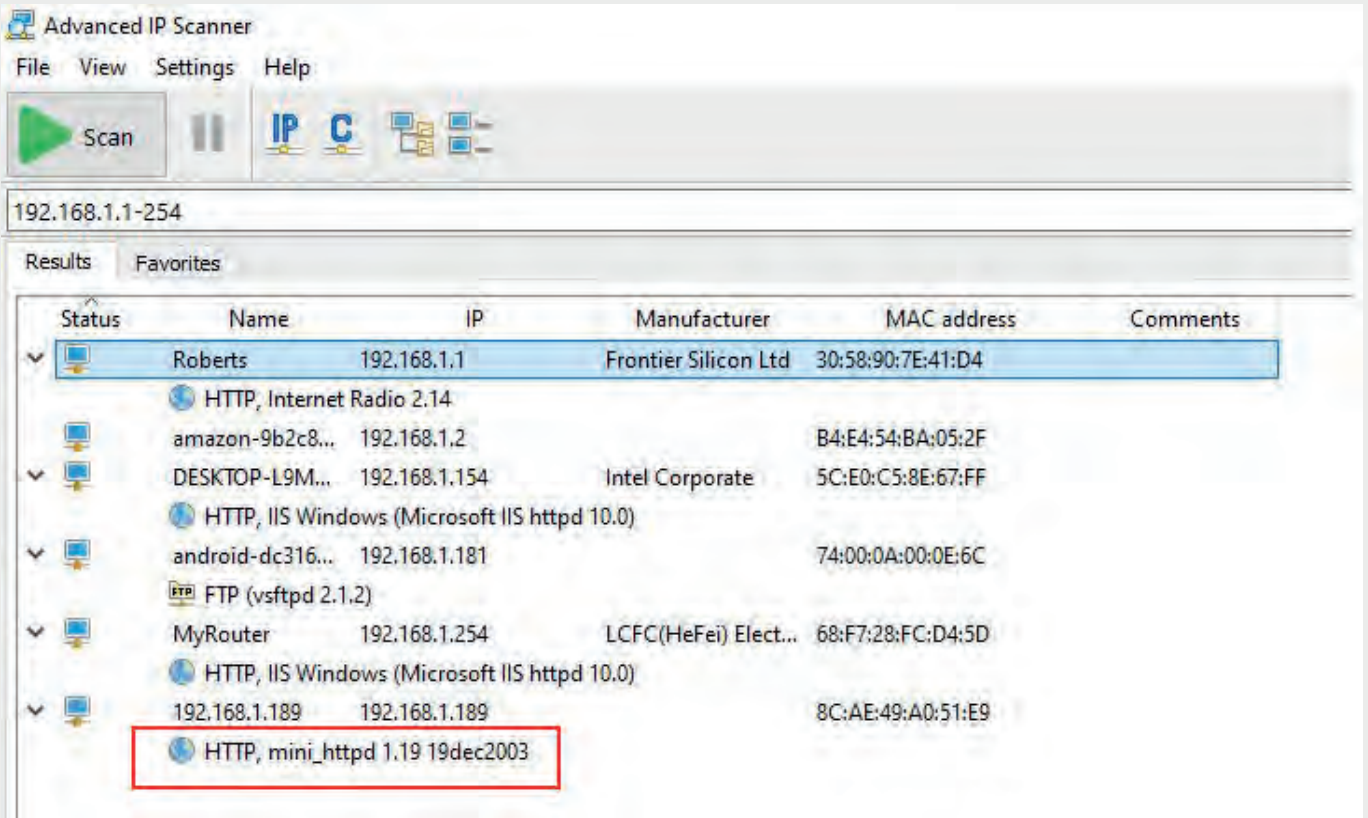
b. As the router is now connected to the AP. The AP will grab an IP address straight away from the routers DHCP server. In order to find out what the IP address is follow the steps below:

c. Connect the laptop/desktop to the router and confirm internet connection. Download and install a free IP scanner such as Advanced IP Scanner: <https://www.advanced-ip-scanner.com/>



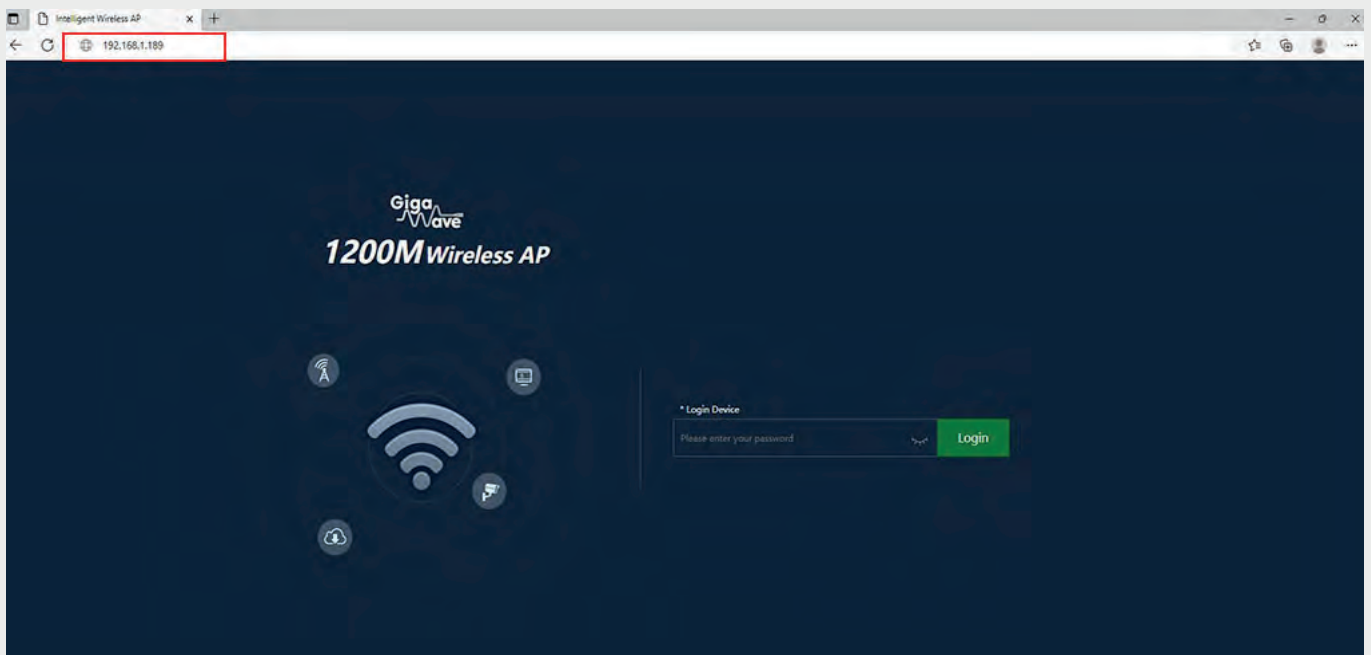
d. Open up advanced IP scanner and press Scan. This will scan the router for IP devices connected to it and give their unique IP address.

e. Once the scan hits 100% then click on the View tab at the top and click on Expand all. **All Gigawave devices will be labelled HTTP, mini httpd in the expanded information section.** This will in turn let the user see the Gigawave devices IP address above it.



From the example pic above we can see the Gigawave AP device has pulled an IP address of 192.168.1.189 from the routers DHCP server.

f. Open an Internet browser such as Chrome, Edge etc. Type into the address bar 192.168.1.189. This will open the APS admin page:



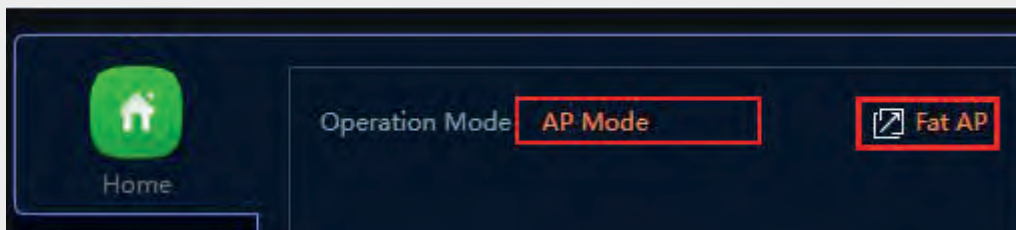
Logging into AP & Configuration

The default admin password is: **gigawave**

1. Homepage

The G-INW-PRO Homepage gives a general overview of the Access Point.

a. Operation mode: Type of mode that the AP is in. Default is AP Mode and FAT AP. Fat AP means the access point is working in standalone mode (each AP is setup individually by logging into each one. It can provide wireless access independently. Not managed by an ac controller. If you are using a Gigawave AC controller Gateway to manage the APs then the AP would have to be in FIT mode.



b. Device Information: Amount of usage being used by the internal CPU and Memory in the AP.

c. Device Description: User can give the AP a reference name i.e. sitting room, hall etc.

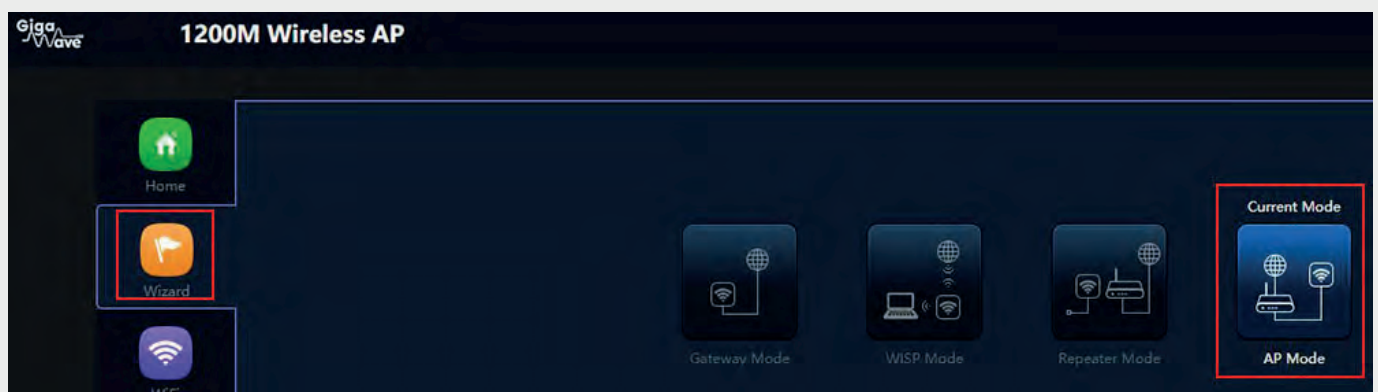
d. Lan Information: Tells the user the APs IP settings, and AP mode.

e. 2G WiFi/5G WiFi: Information about the WiFi radios current status. Whether the radios are turned ON or OFF. Tells what SSID and channel number are on each radio. Wireless Encryption Type being used, radios MAC addresses and AP Downstream and Upstream speeds in bps.

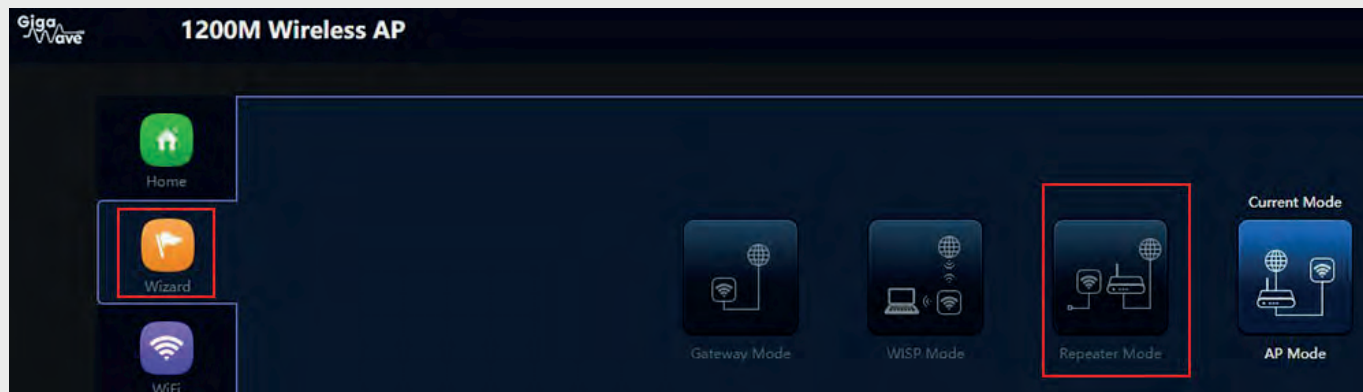
2. Wizard

This section lets the user pick between the four operations modes that the AP can operate as.

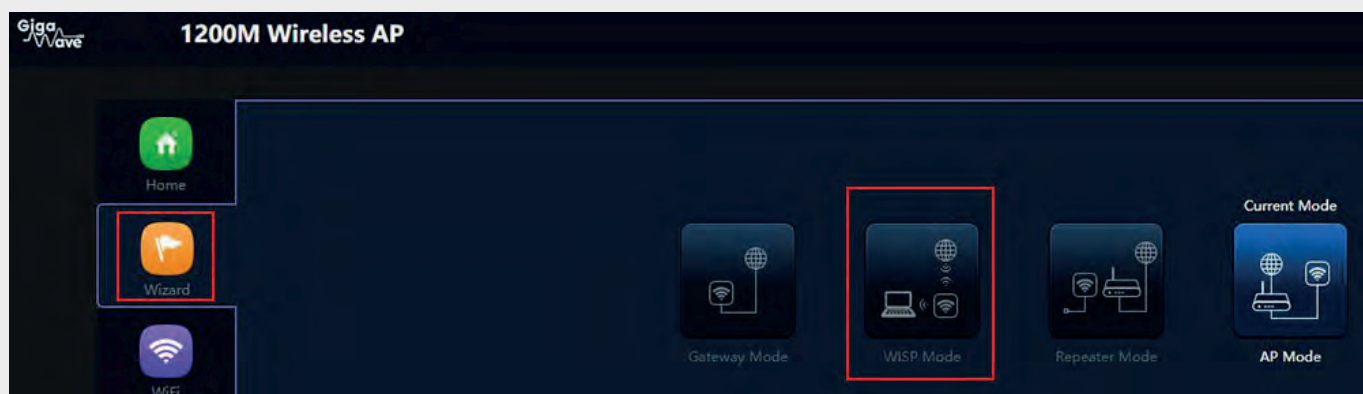
a. AP Mode: This is the default operating mode as a standalone AP. In this mode, the AP wireless interface and cable interface are bridged together. NAT, firewall and all network related function are turned off and managed by the main router.



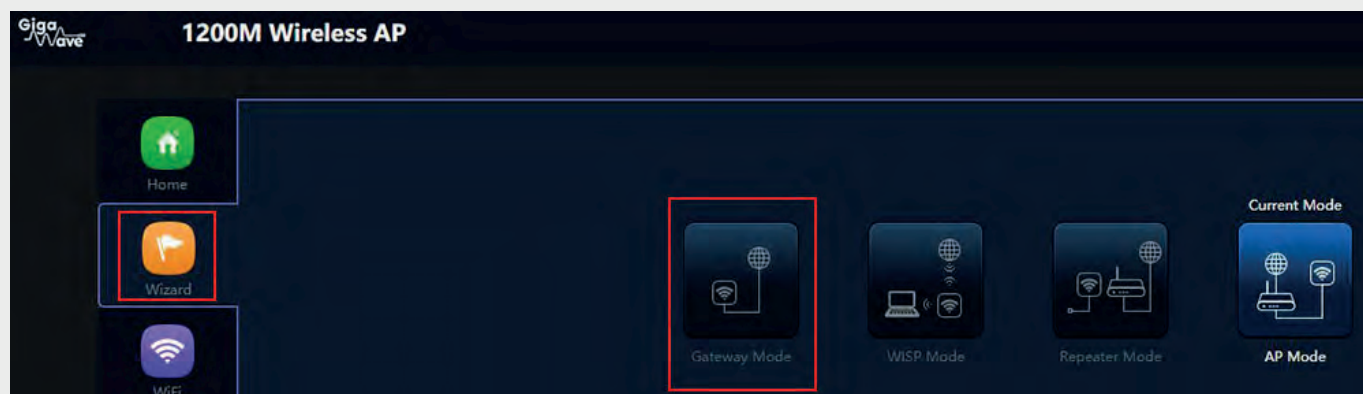
b. Repeater Mode: Wireless APS can enable wireless AP repeater on the 2.4GHz or 5GHz radios. This allows APS to mesh onto another AP creating a mesh wireless network. Repeater AP only needs power and can connect wirelessly to another AP that is connected to the main network. In this mode also, the AP wireless interface and cable interface are bridged together. NAT, firewall and all network related function are turned off and managed by the main router.



c. WISP Mode: Allows the AP to become a wireless WAN client. If for instance you cannot get a wired connection from the router to the WAN port of the access point. NAT is enabled and wired clients connected to AP share the same IP to ISP through the Wireless lan.



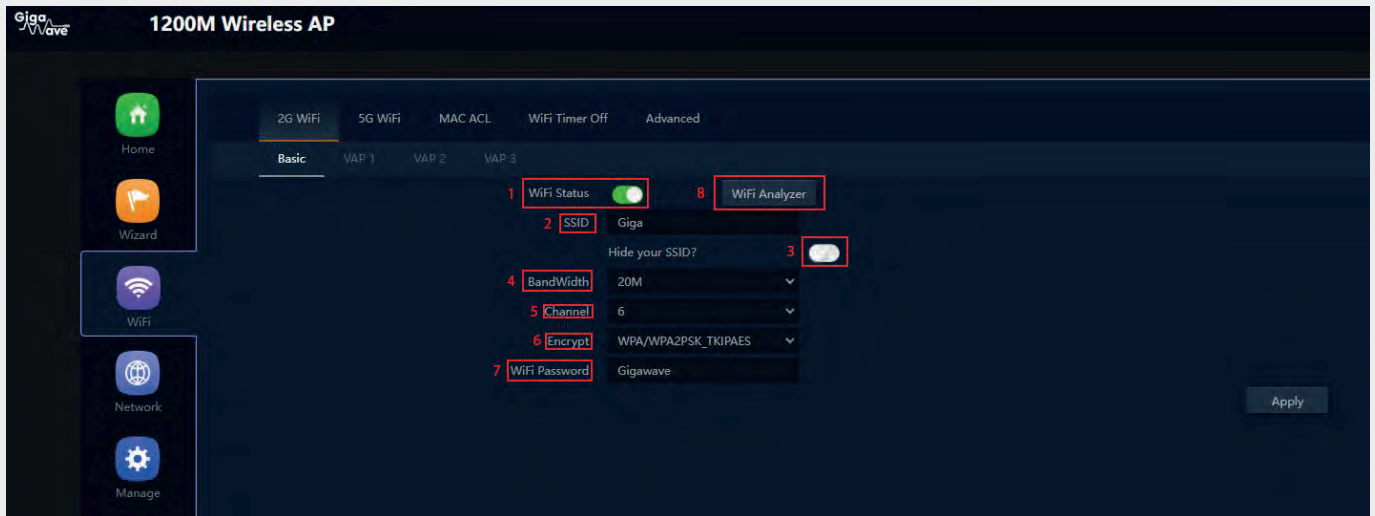
d. Gateway Mode: This mode allows the AP to act as a lan router. It takes a hard wired connection to the wan port. NAT is enabled. Common router functions enabled such as DHCP server functionality.



3. WiFi

This section lets the user configure various settings in relation to the APS WiFi.

a. **2G WiFi:** Configure the 2.4GHZ WiFi radio settings.

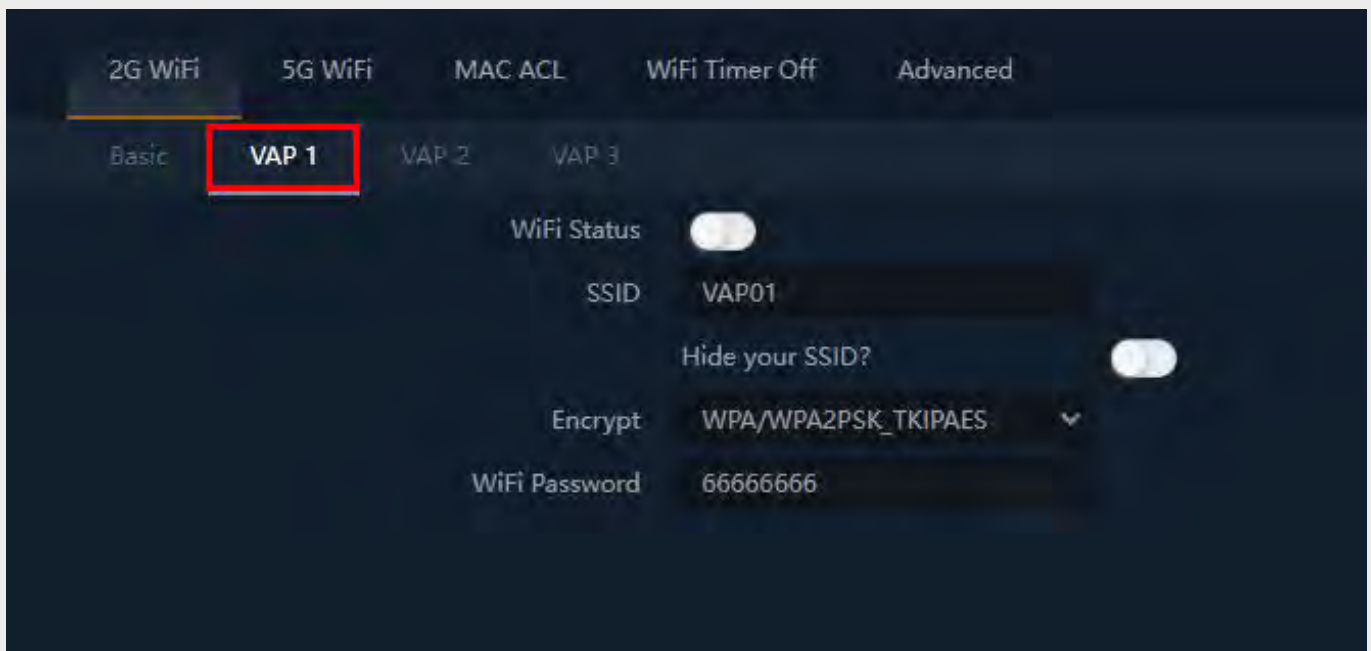


Basic

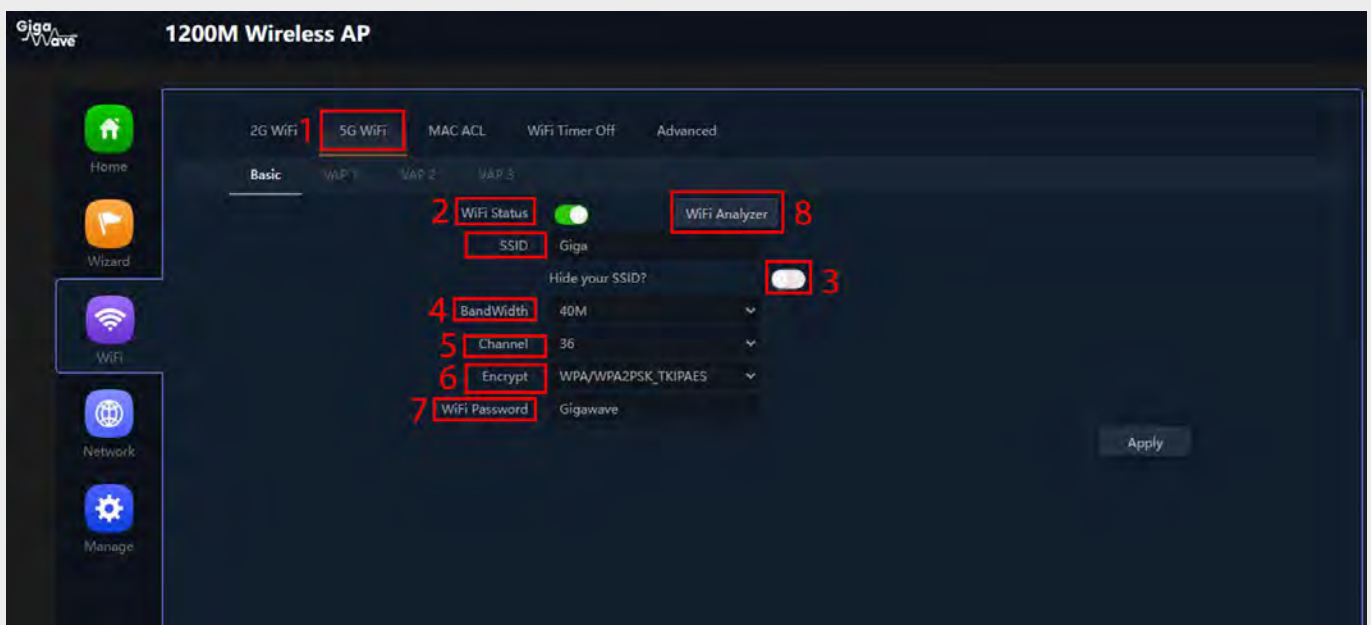
1. **WiFi Status:** Turn the 2.4GHz WiFi radio on or off.
2. **SSID:** Set the 2.4GHz radios WiFi name.
3. **Hide your SSID?** Turn the SSID on or off. If set to off it won't be visible in devices (phones, laptops) WiFi search.
4. **Bandwidth:** Select the channel bandwidth of the 2.4 GHz radio. Selecting a wider channel such as 40 MHz maximises throughput and increase speed however is more prone to interference from overlapping channels. If there are issues try the 20 MHz, not as fast but travels further and has fewer overlapping channels.
5. **Channel:** Select your 2.4GHz WiFi channel. 1,2,3,4,5,6,7,8,9,10,11. Channels 1, 6, 11, are the best WiFi channels to select on the 2.4Ghz radio as they are the three non-overlapping channels.
6. **Encryption:** Enable the WiFi encryption on the AP. Encryption can be set to open if no WiFi password is required. (default is WPA/WPA2PSK_TKIPAES)
7. **WiFi Password:** This is the 2.4 GHz radio Wi-Fi password. It must be between 8 and 63 characters long. (Default is Gigawave)
8. **WiFi Analyser:** Run the analyser to generate a visual display of the network data of your surrounding channels. Will show other AP or Router SSIDs in the surrounding area. Can help user to pick a WiFi channel and avoid channel clashes.

VAP 1, 2 and 3

Up to 3 guest WiFi networks can be set up on the 2.4 GHz radio. Having more than one guest WiFi network can reduce radio throughput



b. 5G WiFi: Configure the 5GHz WiFi radio settings.



1. **WiFi Status:** Turn the 5GHz WiFi radio on or off.
2. **SSID:** Set the 5GHz WiFi name.
3. **Hide your SSID?** Turn the SSID on or off. If set to off it won't be visible in devices (phones, laptops) WiFi search.
4. **Bandwidth:** Select the channel bandwidth of the 5GHz radio. Selecting a wider channel such as 40 MHz or 80MHz maximises throughput and increase speed however is more prone to interference from overlapping channels. If there are issues try the 20 MHz, not as fast but travels further and has fewer overlapping channels.
5. **Channel:** Select your 5GHz WiFi channel (36-64),(100-128),(132-140)

6. **Encryption:** Enable the WiFi encryption on the AP. Encryption can be set to open if no WiFi password is required. (default is WPA/WPA2PSK_TKIPAES)
7. **WiFi Password:** This is the 5GHz radio Wi-Fi password. It must be between 8 and 63 characters long. (Default is Gigawave)
8. **WiFi Analyser:** Run the analyser to generate a visual display of the network data of your surrounding channels. Will show other AP or Router SSIDs in the surrounding area. Can help user to pick a WiFi channel and avoid channel clashes.

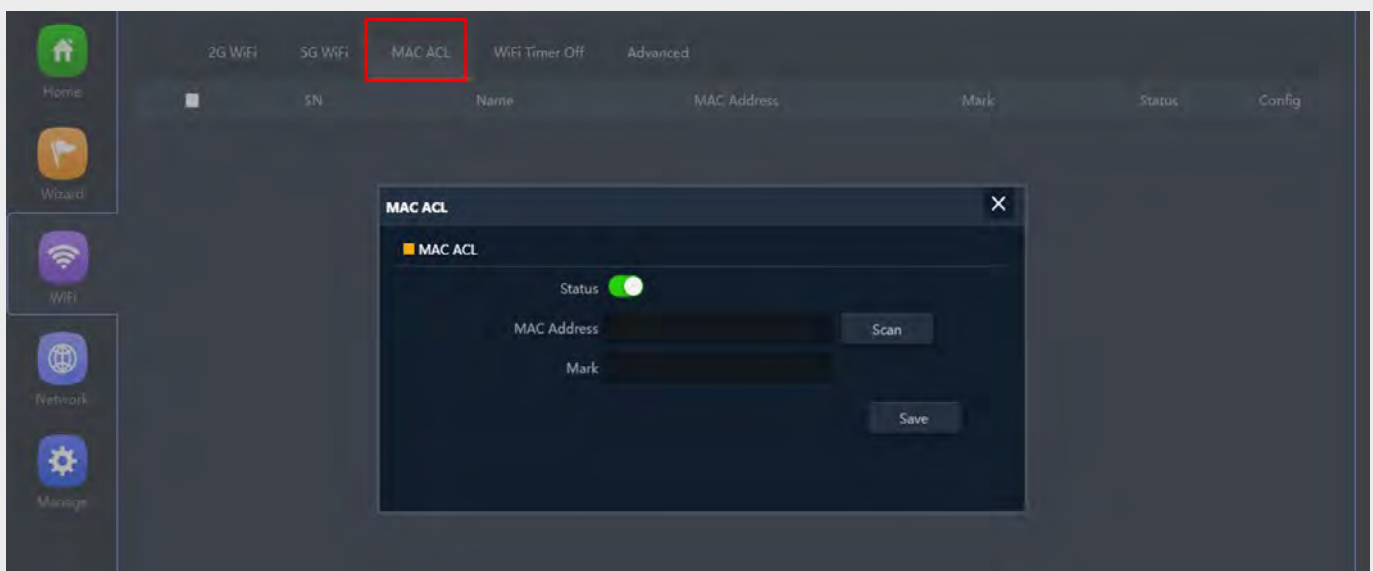
VAP 1, 2 and 3

Up to 3 guest WiFi networks can be set up on the 2.4 GHz radio. Having more than one guest WiFi network can reduce radio throughput



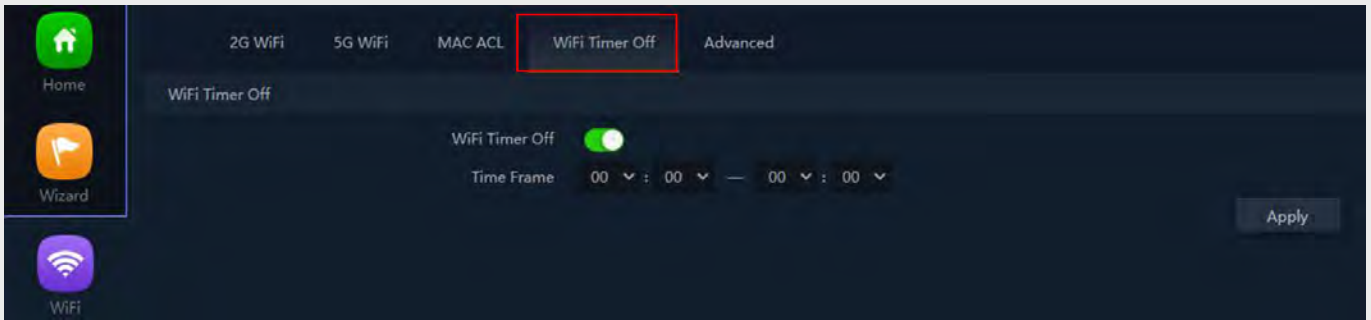
c. MAC ACL:

This section holds the MAC access control list (ACL) it will let the user permit or deny WiFi access to individual devices based on their MAC addresses. For example, if there is a guest device that is using too much bandwidth, the user can deny WiFi access to it without affecting other guest devices.

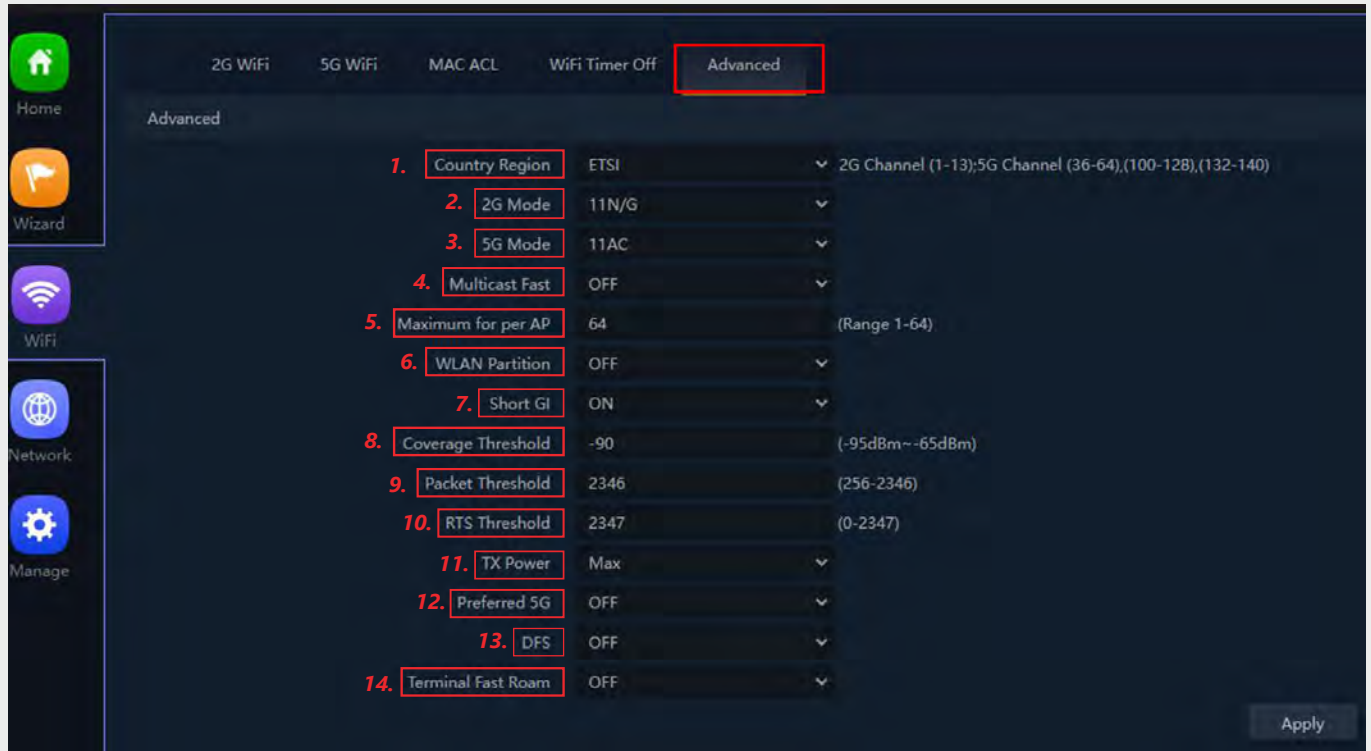


d. WiFi Timer Off

Timers can be set up to turn off the 2GHz and 5GHz radios at certain times of the day.



e. Advanced Tab



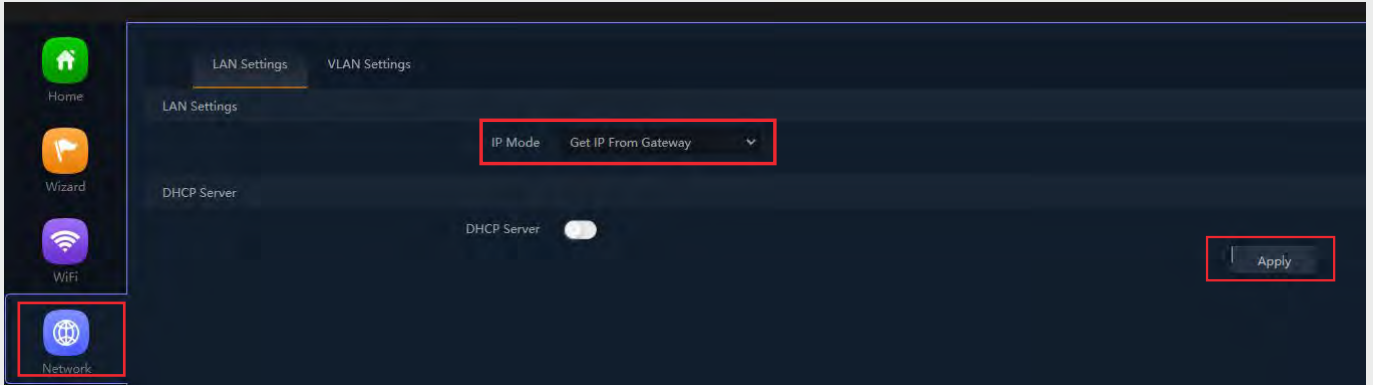
- 1. Country Region:** Select the region of operation. Different regions in the world allow different radio channels.
- 2. 2G Mode:** Select the WiFi standard that the 2GHz radio will use.
- 3. 5G Mode:** Select the WiFi standard that the 5GHz radio will use.
- 4. Multicast Fast:** Enable or disable the Multicast Fast feature.
- 5. Maximum for AP:** Select the max amount of users allowed to connect to the AP. Default is 64.
- 6. WLAN Partition:** Prevents wireless clients from communicating with other each other.
- 7. Short GI:** Short Guard Interval decreases the time between data characters being sent wirelessly. Default is set to on.
- 8. Coverage Threshold:** This sets the upper and lower dBm limit that an AP will not hold onto a client if its threshold is lower than -95 dbm.
- 9. Packet Threshold:** The packet threshold limits the size of packets transmitted over the Wireless network. If the packet is bigger than 2436 it will be dropped.
- 10. RTS Threshold:** The RTS (Request to Send) Threshold. If the packet is larger than the specified RTS Threshold size, the router will send RTS frames to a particular receiving station and negotiate the sending of a data frame. The default value is 2346.
- 11. TX Power:** Set the radios Wifi power output. Default is Maximum.
- 12. Preferred 5G:** When enabled AP gives priority to 5G devices trying to connect to it.
- 13. DFS:** When enabled WiFi channels that do not interfere with satellite or radar are available.
- 14. Terminal Fast Roam:** Allows better connection for clients when roaming between multiple access points.

4. Network

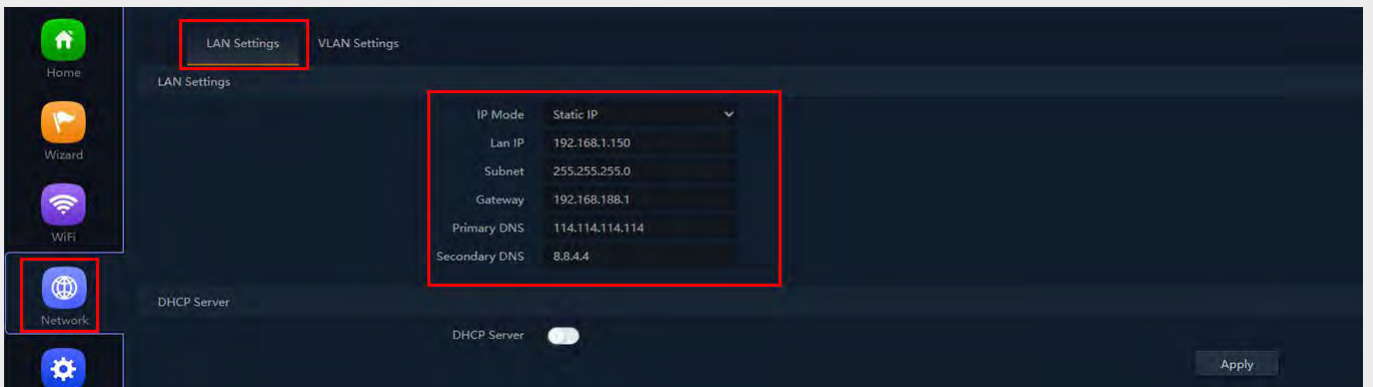
In the Network settings users can configure the lan settings of the AP. Options include giving the AP a static address, putting it on Gateway mode (DHCP), or having it's IP address managed by the AC Gigawave hardware controller.

LAN Settings

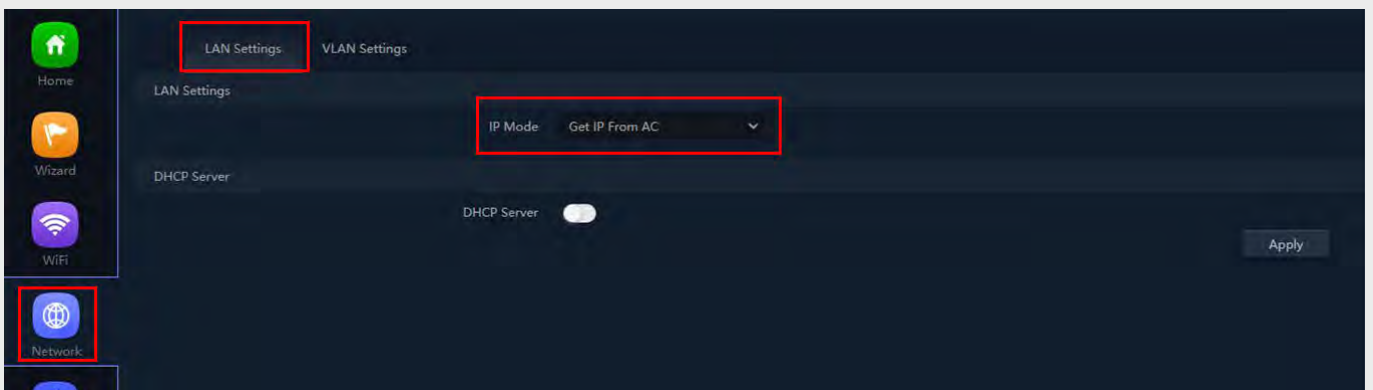
a. Get IP From Gateway: This is the default lan setting of the AP. The AP will be on DHCP and will pull and address from the routers DHCP server automatically.



b. Static IP: Select this option to manually assign IP address settings to the AP.



c. Get IP From AC: When selected the Gigawave Hardware controller will manage the APS lan.

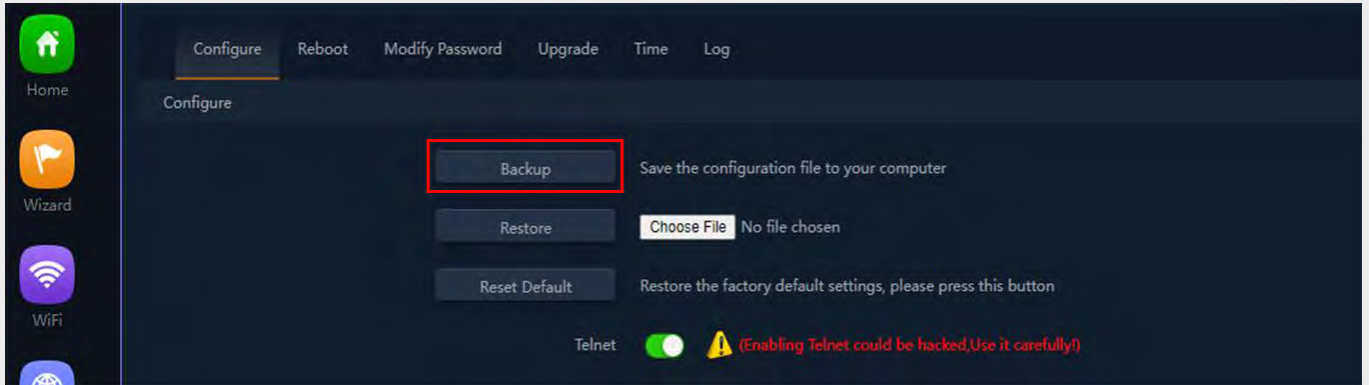


5. Manage

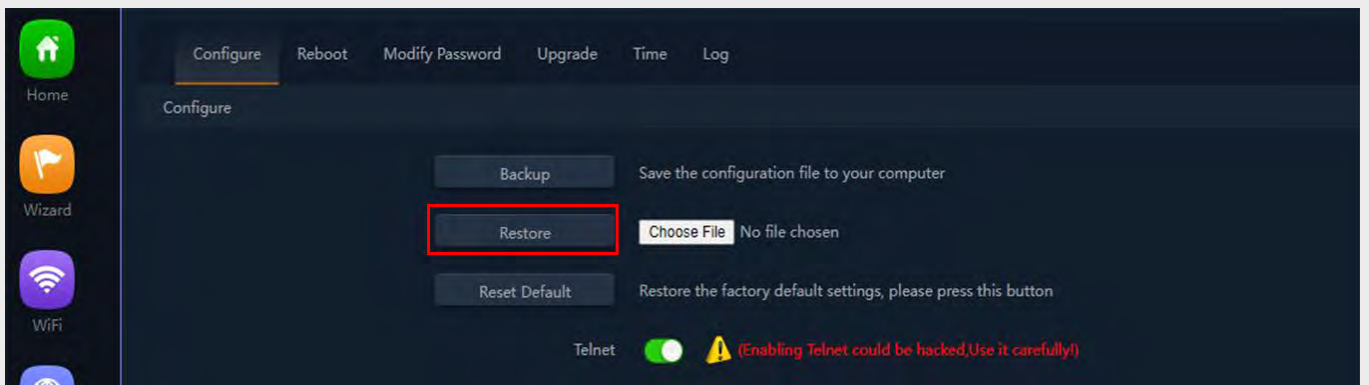
The manage section holds AP maintenance functions such as factory defaulting, rebooting, upgrading, and modifying the admin password.

Configure

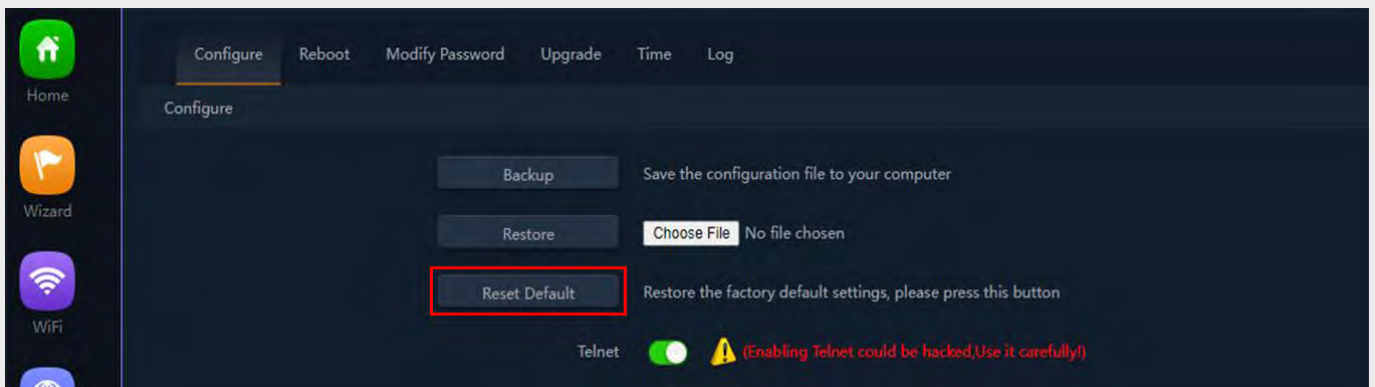
a. Backup: After configuring the Access Point a backup of the configuration can be saved to the user's computer.



b. Restore: Upload a previous backed up configuration file.

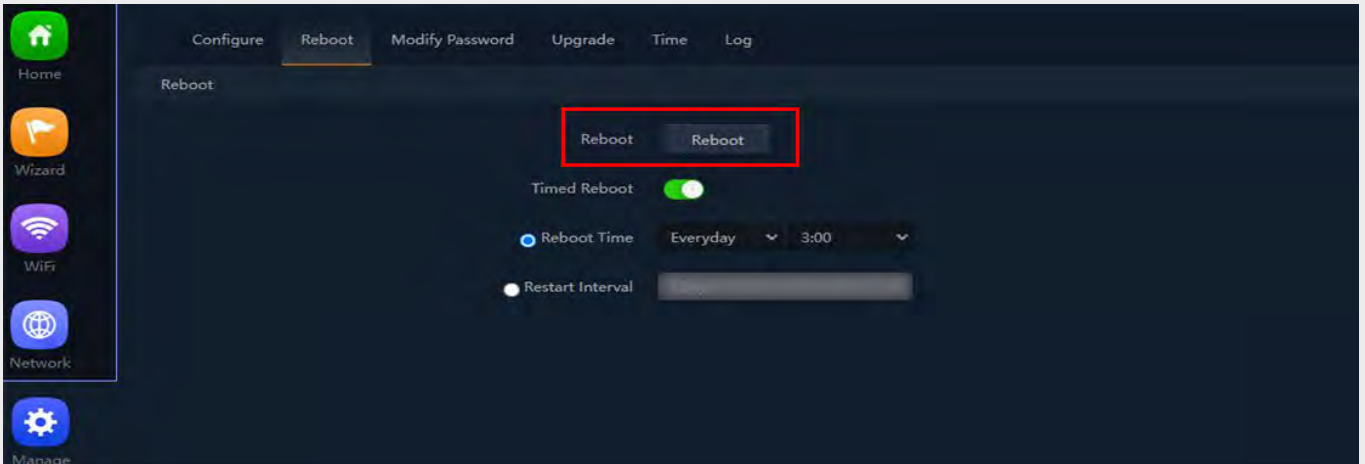


c. Reset Default: Factory default the AP back to factory settings.

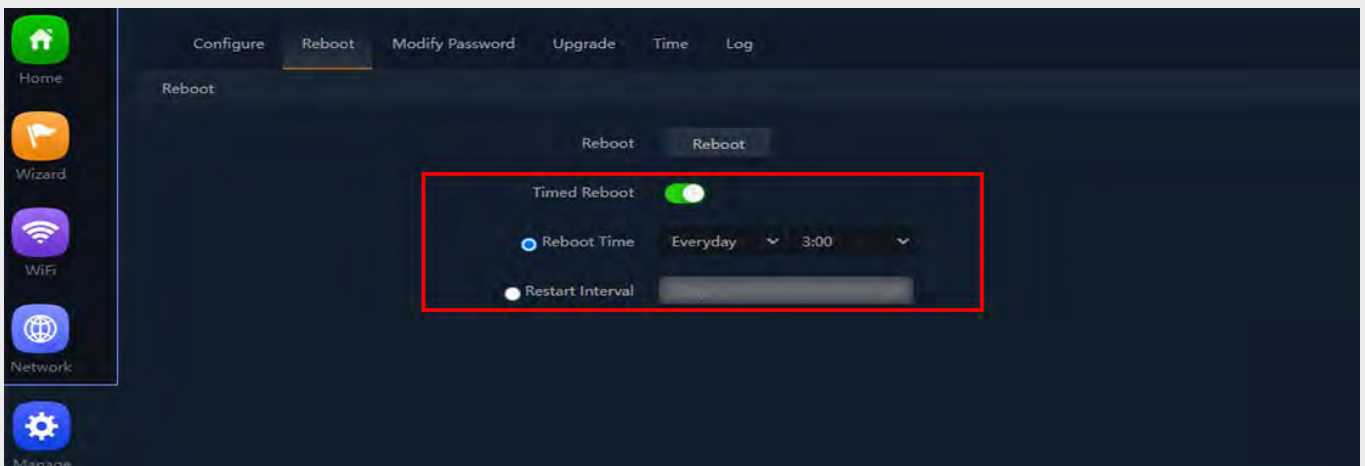


Reboot

a. Reboot: Click on this option to manually reboot the Access Point.

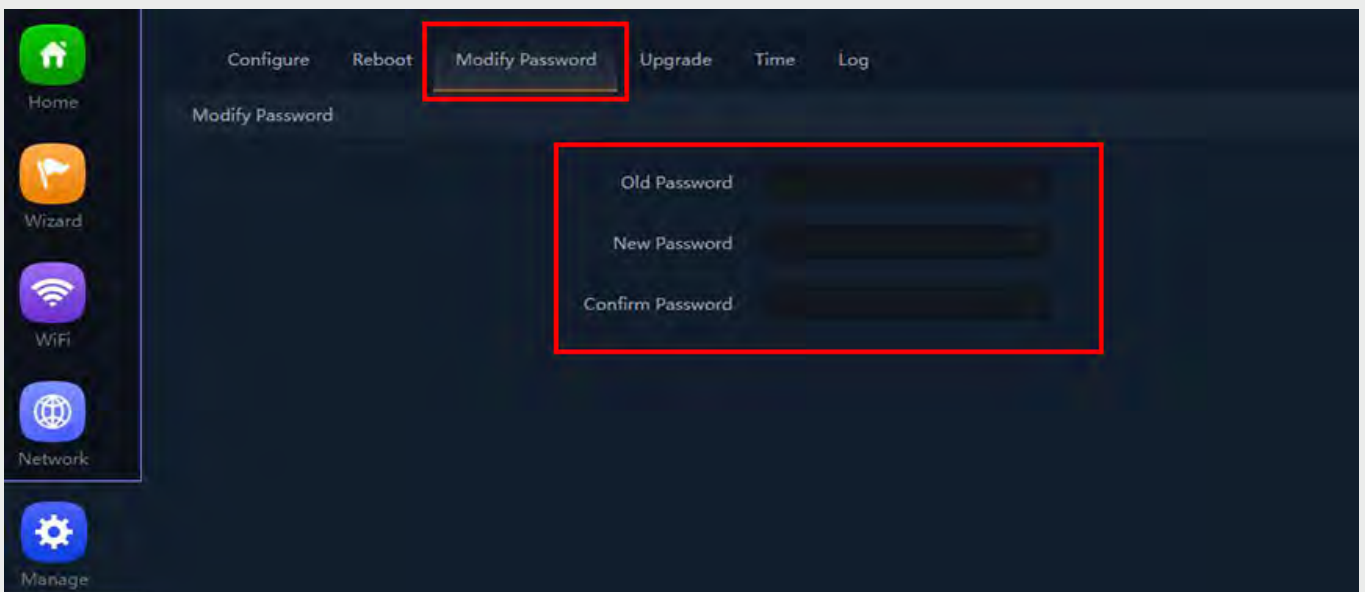


b. Timed Reboot: Configure the AP to reboot itself every day at a certain time or on a certain day of the week.



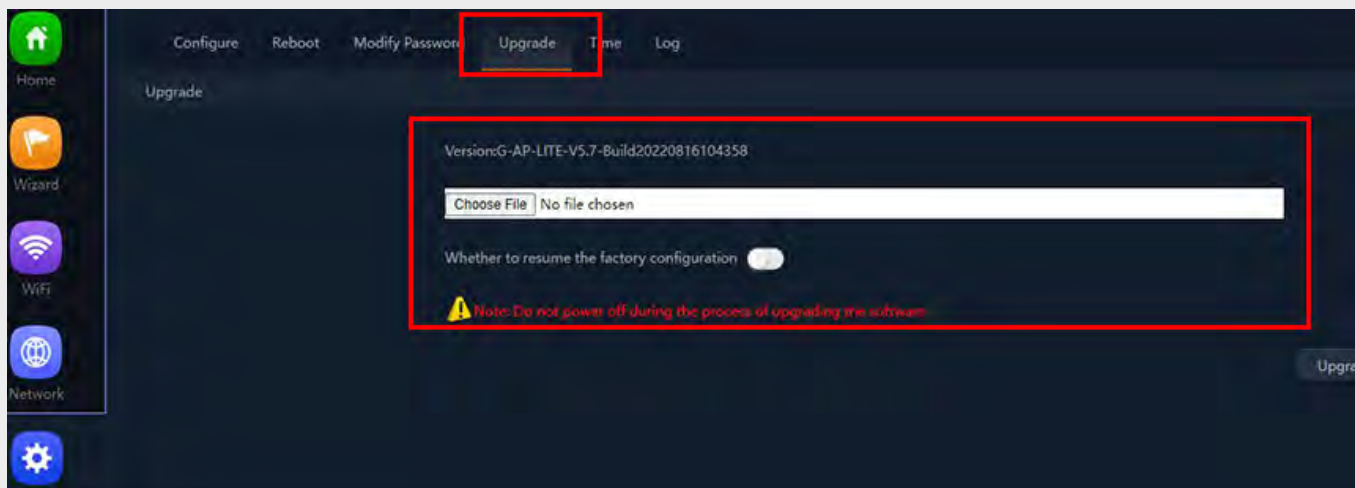
Modify Password

a. Modify Password: Edit the admin login password of the Access Point



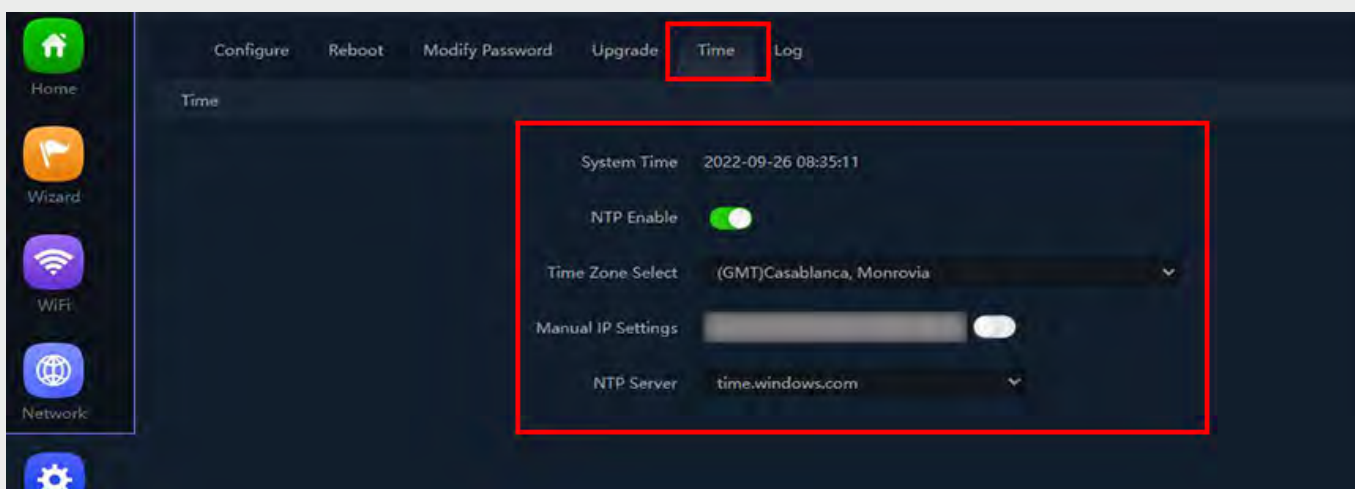
Upgrade

a. **Upgrade Firmware:** Upload firmware to the device to upgrade its version.



Time

a. **NTP Enable:** Configure the NTP settings of the AP. This will keep the time and date settings in sync on the AP with the windows international time server. Switch on if using any timed reboot, WiFi timer etc.



Log

a. View, Export or delete the AP's system logs

